UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/080,517	05/18/1998	CHANDRASEKHAR NARAYANASWAMI	YO998-095	9487

7590 06/21/2004	EXAMINER

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ART UNIT	PAPER NUMBER
2612	23

DATE MAILED: 06/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-22* is/are rejected.

7)☒ Claim(s) *2 and 3* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's Appeal Brief filed March 17, 2004 has been fully considered however, upon reconsideration the examiner has elected to change his position. Previously the examiner opined that there were unpatentable differences in Applicant's claimed invention and the prior art combination of Friedman and Yamadaji. Namely that the claimed invention taught watermarking "parameters" into a captured image while the prior art combination taught watermarking "parameters" in the border of an image.

The examiner feels that the Friedman patent could be interpreted differently. Friedman defines an image file as a still image from a digital camera. Friedman's authentication of an image file includes computing and encrypting an image hash to generate a digital signature. The border of the image is a part of that image file, and thus, the "parameter data" in the border is hashed and encrypted together with the image to generate a digital signature.

Therefore, modifying Friedman's teachings to include Yamadaji's teachings of watermarking would provide an added measure of security when transmitting the image data.

Because of the examiner's change of position, the following action is a new Final.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1.   Claims 1, 4-8, 12-22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Friedman (US5499294) in view of Yamadaji (US6192138).

Regarding claims 1, 13 and 18, Friedman discloses, in figure 4, an image

capturing system (10) for automatically recording and authenticating a plurality of

parameters (see col. 9, lines 8-28 where the various parameters are discussed) in a

captured image, comprising:

a central processing unit (12) for controlling a plurality of functions and

operations of the system;

image capture means (11), operatively connected to the central processing unit,

for generating a digital image of an observed image frame and for generating a plurality

of image data associated with the generation of the image;

wireless communication means (GPS receiver; range finder 13), operatively

connected to the central processing unit, for receiving object data from objects in the

observed image frame when the image is generated, the object data comprising object

identification information (the examiner contends that Friedman's acoustic or infrared

signals transmitted by the range finder can be interpreted to read on Applicant's "object data" since the transmitted signals "identify" data from the object);

geographic location determining means (GPS receiver), operatively connected to the central processing unit, for determining geographic coordinates of the system when the digital image is generated;

means for determining a time and a date when the image is generated (see figure 4 where the time and date is shown);

information receiving means (see col. 3, lines 1-11 where the digital code is discussed), operatively connected to the central processing unit, for receiving user data associated with a user of the system when the digital image is generated, the user data comprising user identification information (the examiner contends that Friedman's serial number which is attached to an image and "associated" with the user can be interpreted to read on Applicant's "user data");

image processing means (12) for receiving the plurality of parameters and recording the plurality of parameters with the generated digital image, the plurality of parameters including the plurality of image data, the object data, the time data, the date data, the location data and the user data; and

Friedman teaches a method for verifying the authenticity of a digital image using public and private keys to eliminate threats of alteration of digital files (see col. 9, lines 29-37). Friedman discloses plural "parameter data" located around the border of an image. The "parameter data" in the border of the image is hashed and encrypted together with the image to generate a digital signature.

Friedman does not expressly disclose means for watermarking a plurality of parameters into an image. Yamadaji reveals that it is well known in the art to invisibly watermark an image with textual data (see col. 8, lines 51-67 where storing of the text data is discussed).

Yamadaji teaches watermarking compressed image data. A photograph is first taken of the image data and then of the "digital watermark," which could either be a logo mark, trademark or character (see col. 8, lines 11-39). Then, the compressed watermark data is embedded into the compressed image data. It would have been obvious to one of ordinary skill in the art at the time the invention was made to watermark Friedman's parameters into the image as well as record them. One would have been motivated to do so in an effort to safeguard the images against malicious manipulations while also protecting the proprietary rights by maintaining the integrity of the image content.

Regarding claim 4, see claim 1 above.

Regarding claim 5, see claim 1 above.

Regarding claim 6, Friedman teaches a method for verifying the authenticity of a digital image using public and private keys to eliminate threats of alteration of digital files. Yamadaji teaches watermarking an image to ensure that the content of the image has not been altered using an image verification process. Neither Friedman nor Yamadaji explicitly disclose preventing the watermarking of the images if an image quality of the image is altered above a threshold. However, it would have been obvious

to one of ordinary skill in the art at the time the invention was made since it would be a

waste of time and money to watermark a damaged/unclear image.

Regarding claim 7, Friedman teaches a method for verifying the authenticity of a

digital image using public and private keys to eliminate threats of alteration of digital

files. Friedman does not expressly disclose an image compression means. Yamadaji

teaches that it is well known in the art to compress an image before watermarking the

image (see examiner's notes above). It would have been obvious to one of ordinary

skill in the art at the time the invention was made to implement Yamadaji's teachings. It

would have been advantageous since the image verification and stamping can be

achieved directly from processing on JPEG compressed image without having to first

decompress the compressed image and then verify the content (see col. 13, lines 52-

60).

Regarding claim 8, see claim 7 above.

Regarding claim 12, Friedman discloses, in figure 4, image data associated with

the generation of the image, including f/stop, shutter speed and distance of the lens at

the time of exposure (the examiner notes that since applicant's claim language is written

in the alternative, not all of the claims limitations must be met).

Regarding claim 14, see claim 1 above.

Regarding claim 15, the combination of Friedman and Yamadaji disclose

specifying which of the measured plurality of parameters is to be watermarked into a

captured image (the examiner notes that the prior art combination would be capable of

watermarking all of the parameters into the captured image).

Regarding claim 16, The combination of Friedman and Yamadaji disclose transmitting the watermarked image data and the associated verification key to a remote system and the extracting step and the comparing step are performed in the remote system (see col. 3, lines 1-15).

Regarding claim 17, see claim 7 above.

Regarding claim 19, see claim 1 above.

Regarding claim 20, see claim 1 above.

Regarding claim 21, Friedman discloses receiving and recording object data from an object in an observed image frame when the image is generated, the object data comprising object identification information (see col. 4, lines 27-37 where it is discussed that an image file can be stored in an internal memory or transmitted directly to processing; also see col. 9, lines 11-13 where it is discussed that the textual data is generated at the time of capture).

Regarding claim 22, see claim 1 above where the information receiving means is discussed.

2.   Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman in view of Yamadaji in further view of Murphy et al (US5799082).

Regarding claim 9, Friedman teaches a method for verifying the authenticity of a digital image using public and private keys to eliminate threats of alteration of digital files. Yamadaji teaches watermarking an image to ensure that the content of the image has not been altered using an image verification process. Neither Friedman nor Yamadaji explicitly disclose an orientation determining means. Murphy teaches that it is

well known in the art to determine angular orientation and embed that information into a

digital image (see the Abstract). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to implement Murphy's teachings of

authenticating a digital image with positional data. This would allow the user to provide

more information concerning the image.

3.   Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Friedman in view of Yamadaji in further view of Tanaka et al (US5335072).

Regarding claim 10, Friedman teaches a method for verifying the authenticity of

a digital image using public and private keys to eliminate threats of alteration of digital

files. Yamadaji teaches watermarking an image to ensure that the content of the image

has not been altered using an image verification process. Neither Friedman nor

Yamadaji explicitly disclose a means for receiving one of verbal data and verbal

commands.

Tanaka reveals that it is well known in the art to utilize a microphone for picking

up voices of a photographer, persons to be photographed and other voices (see col. 4,

lines 49-59; note: since Applicant's claim language is written in the alternative,

Examiner will only address "means for receiving verbal data"). It would have been

obvious to one of ordinary skill in the art at the time the invention was made to

implement Tanaka's teachings since the use of a microphone is notoriously associated

with cameras.

Regarding claim 11, Friedman teaches a method for verifying the authenticity of

a digital image using public and private keys to eliminate threats of alteration of digital

files. Yamadaji teaches watermarking an image to ensure that the content of the image has not been altered using an image verification process. Neither Friedman nor Yamadaji explicitly disclose manually determining the location of the system.

Tanaka reveals that it is well known in the art to store GPS data while in areas where it is impossible to receive GPS signals from satellites (see col. 8, lines 10-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement Tanaka's teachings. One would have been motivated to do so in an effort to store positional data when GPS signals are out of range.

Allowable Subject Matter

Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 2, the prior art does not teach or fairly suggest an image capturing system for recording and watermarking a plurality of parameters comprising a central processing unit, image capture means, wireless communication means, geographic location determining means, means for determining time and date, information receiving means, image processing means and means for watermarking the plurality of parameters, wherein

the system further comprises means for specifying which of the plurality of parameters should be recording with the image and for specifying which of the plurality of parameters should be watermarked in the image.

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Chapman et al teach watermarking video images with code data;

Bhaskaran et al teach a digital camera for watermarking image data; Houser et al teach

and electronic document verification system; Squilla et al teach a digital camera for

authenticating image data.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

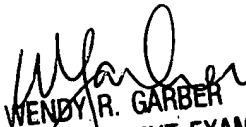policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rashawn N Tillery whose telephone number is 703-305-0627. The examiner can normally be reached on 9AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RNT

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